

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A method Method for equalizing symbols received from a transmission channel and for decoding data therefrom, ~~characterised~~ comprising:  
~~in that it performs either~~ performing one of a first processing, ~~comprising a which~~  
includes performing a turboequalizing sequence on the received symbols ~~[[or]]~~ and a second processing, ~~comprising which includes~~ [[an]] equalizing [[step]] the received symbols and  
~~followed by applying~~ a turbodecoding sequence to the received symbols[[,]]; and  
~~the selection of the first or the second processing being made upon an estimation of the delay spread of the transmission channel.~~  
performing the first processing when a value of a delay spread of the transmission channel rises above a first threshold and performing the second processing when the value of the delay spread falls under a second threshold.

Claim 2 (Canceled).

Claim 3 (Canceled).

Claim 4 (Currently Amended): The method of claim 1, Method as claimed in claim 1,  
~~2 or 3, characterised in that~~ wherein the turboequalizing sequence ~~includes the~~ comprises:  
performing an iteration of a soft ~~equalizing step~~ equalization on the received symbols  
according to an APP ~~type~~ algorithm~~[[,]];~~  
[[a]] deinterleaving the received symbols; [[step]] and  
[[a]] soft decoding [[step]] the received symbols.

Claim 5 (Currently Amended): The method of Method as claimed in claim 4,  
~~characterised in that~~ wherein the APP type algorithm is a ~~List type APP MAP~~ algorithm.

Claim 6 (Currently Amended): The method of claim 4, Method as claimed in claim 4  
~~or 5, characterised in that~~ wherein ~~[[the]]~~ a number of states of ~~[[the]]~~ a ~~[[APP]]~~ trellis of the  
APP algorithm is equal to  $M^{J-1}$ , where M is ~~[[the]]~~ a modulation alphabet size used over the  
transmission channel and J is a ~~strictly~~ positive integer which is chosen according to a  
characteristic of the transmission channel.

Claim 7 (Currently Amended): The method of Method as claimed in claim 6,  
~~characterised in that~~ wherein a value of J is chosen to be higher than ~~[[the]]~~ a value of said  
delay spread of the transmission channel, if the transmission channel is affected by fast  
fading.

Claim 8 (Currently Amended): The method of Method as claimed in claim 6,  
~~characterised in that~~ wherein a value of J is chosen to be lower than ~~that the~~ than a value of said  
delay spread of the transmission channel, if ~~[[the]]~~ propagation involves a Line of Sight  
component.

Claim 9 (Currently Amended): The method of claim Method as claimed in claims 6,  
~~characterised in that~~ wherein a value of J is chosen according to ~~[[the]]~~ a power profile of  
~~[[the]]~~ a channel impulse response.

Claim 10 (Currently Amended): The method of claims Method as claimed in claim 7,  
~~8 or 9, characterised in that~~ wherein said soft decoding ~~[[step]]~~ is based upon an APP type

algorithm involving  $2^{K-1}$  states, K being increased when J decreases and K being decreased when J increases.

Claim 11 (Currently Amended): The method of claims ~~Method as claimed in claim 7, 8, or 9 [[or 10]], characterised in that~~ wherein K is determined as the highest integer for which  $a \cdot 2^{K-1} + b \cdot M^{J-1}$   ~~$a \cdot 2^{K-1} + b \cdot M^{J-1}$~~ , where a and b are fixed coefficients, is lower than a predetermined resource value.

Claim 12 (Currently Amended): The method of claims ~~Method as claimed in claim 7, 8, or 9 [[or 10]], characterised in that~~ wherein at least one of K and N, ~~[[the]] a number of iterations of the turbo-equalizing sequence,~~ is adapted so that  $N \cdot (a \cdot 2^{K-1} + b \cdot M^{J-1})$   ~~$N \cdot (a \cdot 2^{K-1} + b \cdot M^{J-1})$~~ , where a and b are fixed coefficients, is lower than a predetermined resource value.

Claim 13 (Currently Amended): The method of claim 1 ~~Method as claimed in claim 1, 2 or 3, characterised in that~~ wherein the turboequalizing sequence ~~includes the~~ comprises:  
performing an iteration of a soft equalizing of the received symbols, step including  
which includes,

[[a]] filtering ~~[[step]] the received symbols to cancel for cancelling the~~  
intersymbol interference over the transmission channel, ~~the filter having~~ filtering  
including L taps, where L is a variable parameter given by the delay spread of the  
transmission channel[[,]];

[[a]] deinterleaving the received symbols;[[step]] and

[[a]]soft decoding ~~[[step]] the received symbols.~~

Claim 14 (Currently Amended): The method of ~~Method as claimed in claim 13,~~  
~~characterised in that~~ wherein said soft decoding ~~[[step]]~~ is based upon an APP type algorithm  
involving  $2^{K-1}$  states, where K is chosen as the highest integer for which  ~~$a \cdot 2^{K-1} + b' \cdot L$~~   
 $a \cdot 2^{K-1} + b' \cdot L$ , where a and b' are fixed coefficients, is lower than a predetermined resource  
value.

Claim 15 (Currently Amended): The method of ~~Method as claimed in claim 13,~~  
~~characterised in that~~ wherein at least one of K and N, ~~[[the]]~~ a number of iterations of the  
turbo-equalizing sequence, is adapted so that  ~~$N \cdot (a \cdot 2^{K-1} + b' \cdot L)$~~   $N \cdot (a \cdot 2^{K-1} + b' \cdot L)$ , where a and  
b' are fixed coefficients is lower than a predetermined resource value.

Claim 16 (Currently Amended): A method ~~Method~~ for coding data, ~~characterised in~~  
~~that it performs~~ comprising:

performing either a first processing, ~~comprising~~ which includes,

[[a]] coding step followed by an the data using a convolutional code that  
includes a variable constraint length, and

interleaving ~~[[step]]~~ the data, or

performing a second processing, including which includes ~~[[a]] turboencoding step for~~  
turboencoding said data,

wherein the choice selection of the first or the second processing being is made upon  
~~[[an]]~~ information ~~[[over]]~~ relative to the delay spread of the transmission channel.

Claim 17 (Canceled).

Claim 18 (Currently Amended): ~~A receiver~~ Receiver comprising: ~~means for carrying out the method claimed in any of claims 1 to 15.~~

a processing device configured to perform one of a turboequalizing sequence on received symbols, and equalizing of received symbols along with a turbodecoding sequence on the received symbols,

wherein the turboequalizing sequence is performed when a value of a delay spread of a transmission channel rises above a first threshold and equalize received symbols and perform a turbocoding sequence on the received symbols is performed when the value of the delay spread falls under a second threshold.

Claim 19 (Currently Amended): ~~A transmitter~~ Transmitter comprising: ~~means for carrying out the method claimed in claim 16 or 17.~~

a processing device configured to perform one of turbocode data, and interleave data and code data, wherein the code is a convolutional code that includes a variable constraint length,

wherein a selection of turbocode data, and interleave data and code data is made upon information relative to a delay spread of a transmission channel.

Claim 20 (Currently Amended): ~~A telecommunications~~ Telecommunication system comprising:

~~a transmitter as claimed in claim 19 and a receiver as claimed in claim 18, the~~  
transmitter including

a processing device configured to perform one of turbocode data, and interleave data and code data, wherein the code is a convolutional code that includes a variable constraint length,

wherein a selection of turbocode data, and interleave data and code data is made upon information relative to a delay spread of a transmission channel, the receiver including

a processing device configured to perform one of a turboequalizing sequence on received symbols, and equalizing received symbols along with a turbodecoding sequence on the received symbols,

wherein the turboequalizing sequence is performed when a value of a delay spread of a transmission channel rises above a first threshold and equalize received symbols and perform a turbocoding sequence on the received symbols is performed when the value of the delay spread falls under a second threshold,

wherein the receiver sends ~~the receiver sending~~ back to the transmitter said information relative to ~~[[the]]~~ a delay spread of ~~[[the]]~~ a transmission channel.

Claim 21 (Currently Amended): The telecommunication ~~Telecommunication~~ system ~~of as claimed in claim 20, characterised in that~~ wherein the transmitter further comprises a convolutional coder whose constraint length is increased or decreased upon a request from the receiver.